CCGGCGCGACTTGGGCCTGGCTCTGTGACTGAGGCGGCGGCGGTGGCGGCCAAGCGGGATACGGGCGGCGGGAGCTGGGGAACAGGCATG 90

GACGTTTCCGGGCAAGAGACCGACTGGCGGAGACCGCCTTCCGGCAGAAGCTGGTCAGTCAAATCGAGGATGCCATGAGGAAAGCTGGTG 180
                                                                     M R K A G

TGGCACACAGTAAATCCAGCAAGGATATGGAGAGCCATGTTTTCCTGAAGGCCAAGACCCGGGACGAATACCTTTCTCTCGTGGCCAGGC 270
V A H S K S S K D M E S H V F L K A K T R D E Y L S L V A R

TCATTATCCATTTTCGAGACATTCATAACAAGAAATCTCAAGCTTCCGTCAGTGATCCTATGAATGCACTCCAGAGCCTGACTGGCGGAC 360
L I I H F R D I H N K K S Q A S V S D P M N A L Q S L T G G

CTGCTGCGGGAGCCGCTGGAATTGGCATGCCTCCTCGGGGCCCGGGACAGTCTCTGGGCGGGATGGGTAGCTTTGGTGCCATGGGACAGC 450
P A A G A A G I G M P P R G P G Q S L G G M G S F G A M G Q

CAATGTCTCTCTCAGGGCAGCCGCCTCCTGGGACCTCGGGGATGGCCCCTCACAGCATGGCTGTCGTGTCTACGGCAACTCCACAGACCC 540
P M S L S G Q P P P G T S G M A P H S M A V V S T A T P Q T

AGCTGCAGCTCCAGCAGGTGGCGCTGCAGCAGCAGCAGCAACAGCAGCAGTTCCAGCAGCAGCAGCAGGCGGCGCTACAGCAGCAGCAGC 630
Q L Q L Q Q V A L Q Q Q Q Q Q Q Q F Q Q Q Q Q A A L Q Q Q Q

AGCAGCAGCAACAGCAGCAGTTCCAGGCTCAGCAGAGTGCCATGCAGCAGCAGTTCCAAGCAGTAGTGCAGCAGCAGCAGCAGCTCCAGC 720
Q Q Q Q Q Q F Q A Q Q S A M Q Q Q F Q A V V Q Q Q Q Q L Q

AGCAGCAGCAGCAGCAGCAGCATCTAATTAAATTGCATCATCAAAATCAGCAACAGATACAGCAGCAGCAACAGCAGCTGCAGCGAATAG 810
Q Q Q Q Q Q Q H L I K L H H Q N Q Q Q I Q Q Q Q Q Q L Q R I

CACAGCTGCAGCTCCAACAACAGCAACAGCAGCAGCAGCAGCAGCAGCAGCAGCAGCAGGCTTTGGAGGCCCAGCCACCAATTCAGC 900
A Q L Q L Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q Q A L E A Q P P I Q

AGCCACCGATGCAGCAGCCACAGCCTCCGCCCTCCCAGGCTCTGCCCCAGCAGCTGCAGCAGATGCATCACACACAGCACCACCAGCCGC 990
Q P P M Q Q P Q P P P S Q A L P Q Q L Q Q M H H T Q H H Q P

CACCACAGCCCCAGCAGCCTCCAGTTGCTCAGAACCAACCATCACAACTCCCGCCACAGTCGCAGACCCAGCCTTTGGTGTCACAGGCGC 1080
P P Q P Q Q P P V A Q N Q P S Q L P P Q S Q T Q P L V S Q A

AAGCTCTCCCTGGACAAATGTTGTATACCCAACCACCACTGAAATTTGTCCGAGCTCCGATGGTGGTGCAGCAGCCCCCAGTGCAGCCCC 1170
Q A L P G Q M L Y T Q P P L K F V R A P M V V Q Q P P V Q P

AGGTGCAGCAGCAGCAGACAGCAGTACAGACAGCTCAGGCTGCCCAGATGGTGGCTCCCGGAGTCCAGGTCAGCCAGAGCAGCCTCCCCA 1260
Q V Q Q Q Q T A V Q T A Q A A Q M V A P <u>G V Q V S Q</u> S S L P

TGCTGTCCTCGCCGTCACCGGGCCAGCAGGTGCAGACCCCGCAGTCGATGCCCCCTCCCCCCCAGCCGTCCCCGCAGCCCGGCCAGCCCA 1350
M L S S P S P G Q Q V Q T P Q S M P P P P Q P S P Q P <u>G Q P</u>

GCTCACAGCCCAACTCCAACGTCAGCTCTGGCCCTGCCCCATCTCCCAGTAGCTTCCTGCCCAGCCCCTCACCGCAGCCCTCCCAGAGCC 1440
<u>S S Q</u> P N S <u>N V S S</u> G P A P S P S S F L P S P S P Q P S Q S

CAGTGACGGCGCGGACCCCACAGAACTTCAGTGTCCCCTCACCTGGACCTTTAAACACACCTGTGAACCCCAGCTCTGTCATGAGCCCAG 1530
P V _oT A _oR T _oP Q <u>N F S V</u> P S P G P L N T P V N P S S V M S P

CTGGCTCCAGCCAGGCTGAGGAGCAGCAGTACCTGGACAAGCTGAAGCAGCTGTCGAAGTACATCGAGCCCCTGCGCCGCATGATCAACA 1620
A G S S Q A E E Q Q Y L D K L K Q L S K Y I E P L <u>R R M I N</u>

AGATCGACAAGAACGAAGACAGAAAAAAGGACCTGAGTAAGATGAAGAGCCTTCTGGACATTCTGACAGACCCCTCGAAGCGGTGTCCCC 1710
<u>K I D K N E D R K K</u> D L S K M K <u>S L L D</u> I L T D P S _oK _oR _oC P

Fig. 4
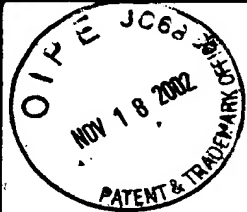
TGAAGACCTTGCAAAAGTGTGAGATCGCCCTGGAGAAACTCAAGAATGACATGCGGTGCCCACTCCCCCACCGCCCCCGGTGCCACCGAC 1800
L K T L Q K C E I A L E K L K N D M R C P L P H R P R C H R

CAAACAGCAGTACCTATGCCAGCCGCTCCTGGATGCCGTCCTGGCCAACATCCGCTCACCTGTCTTCAACCATTCCCTGTACCGCACATT 1890
P N S S T Y A S R S W M P S W P T S A H L S S T I P C T A H

CGTTCCAGCCATGACCGCCATTCACGGCCCCACCCATCACGGCCCCAGTGGTGTGCACCCGGAAGCGCAGGCTTGAGGATGATGAGCGGCA 1980
S F Q P

GAGCATCCCCAGTGTGCTCCAGGGTGAGGTGGCCAGGCTGGACCCCAAGTTCCTGGTAAACCTGGACCCTTCTCACTGCAGCAACAATGG 2070

CACTGTCCACCTGATCTGCAAGCTGGATGACAAGGACCTCCCAAGTGTGCCACCACTGGAGCTCAGTGTGCCCGCTGACTATCCTGCCCA 2160

AAGCCCGCTGTGGATAGACCGGCAGTGGCAGTACGACGCCAACCCCTTTCCTCCAGTCGGTGCACCGCTGCATGACCTCCAGGCTGCTGC 2250

AGCTCCCGGACAAGCACTCGGTCACCGCCTTGCTCAACACCTGGGCCCAGAGCGTCCACCAGGCCTGCCTCTCAGCCGCCTAGCCAAGAC 2340

TGCAGGGATGGCCCGCAGCCTCATCGGGGCCAAGGACACACGCCTCCTGTCAGACACTTCTAGGTGTTGGCTTCCTTAGAGAGCCTGGGG 2430

TTAGGTTAGCTTTCCTGCTTTTATCTTCTGCCTTGGGGACCTGCCAAACGAAATCCCACACCTGTACAGAACTGGGATAGGCGCAGTGGA 2520

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CTCACCGTGGCCTGTCCACGGTCCAGGTCCATCTCAGCAGCGTGAGGGTGCACTCAGGGTGTTGTTAGAGCGTCTCGTGTGTGCTAGACG 2700

CACCCCTACTCGTTCCTATAGAACACAGAGGACATAGGAAACCCTTAAAACACACATGGGATTCTCTGGTCACAGTTTTGGGTTCAGGCT 2790

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CAGAGCACCACACACTGAGCACCCAGAGACAGCGGGCTTGGCAGCGGGCCGGGCCATGCAGGGAGCGCCTCCCTATGTTGCCTGCCACTC 3150

TGGGCACCGGCCAGCACCCTCTGGTGAGAAGAGGTCCCCCCTTTTTATGTGCACTACCCCACCATCTGTGATTATAATAAATTTATTATT 3240

CCTGTGGAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA 3330

AAAA 3334

Fig. 4. (*continued*)